and 1 year following initiation of LEN were identified in a US health plan claims database (7/1/2007-6/30/2011). Persistence was defined as days from the first LEN treatment to the earlier of either the date of discontinuation or end of the follow-up period. Adherence was measured by the medication possession ratio. Indicators of disease control included in this study were inpatient hospitalization(s) and number of ER visits. Disease-related complications included evidence of skeletal-related events (SREs) defined as fracture, spinal cord compression, or radiation to the bone; and sepsis. **RESULTS:** Among the 605 patients meeting the inclusion criteria, persistency with lenalidomide averaged 6.0 months (median = 4.9) with 57.9% of patients being persistent for the entire year. A one month increase in persistence was associated with a lower probability of SREs (OR=0.96; p=0.078), sepsis (OR=0.86; p<0.001), and relapse or disease progression (OR=0.78; p<0.001). The probability of an inpatient hospitalization (OR=0.68; p-value<0.001) and additional ER visits (OR=0.83; p=0.002) were both lower with better persistence. A higher medication possession ratio measured in year 1 was associated with increased overall survival (p=0.007). **CONCLUSIONS:** This analysis demonstrates that continuous treatment with LEN improves disease control in MM patients, as well as reduces health care utilization and related costs as indicated by the lower risk of hospitalizations and fewer ER visits.

PCN13

ANALYSIS OF THE IMPACT OF PROPHYLACTIC VACCINATION AGAINST HUMAN PAPILLOMAVIRUS INFECTION USING A DYNAMIC-MODELLING APPROACH

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OBJECTIVES: Since 2008, teenage girls are being vaccinated against Human Papillomavirus (HPV) in Europe. The vaccine coverage did not reach high uptake. The aim of this study is to design a dynamic transmission framework to model HPV-transmission in the population in order to predict epidemiologic and economic consequences of population-based HPV vaccination programs. **METHODS:** A dynamic transmission model was designed including 7 different HPV-types to predict the epidemiologic and economic consequences of HPV-vaccination. Dutch age-specific HPV-prevalence and cervical cancer incidence and mortality data were used to calibrate the model assuming a steady state. The consequence of HPV-vaccination was analyzed in different scenarios. In particular, the age of the vaccinee, inclusion of boys, and a reduced screening compliance was assessed. In sensitivity analyses, the vaccination coverage, duration of vaccine-induced protection, and vaccine choice was varied. **RESULTS:** Vaccination of 50% of girls against HPV infection results in a 56% overall reduction in cervical cancer incidence. The model predicted outcomes are highly sensitive for the duration of vaccine-induced protection and the vaccination coverage. If vaccination will only provide 20-years of protection a 32% reduction in cervical cancer incidence was observed. HPV16 and 18 will be eradicated from the general population if vaccine coverage is >90%. Vaccination at an older age still provides a relevant number of cases averted however vaccination before sexual debut remains most efficient. Vaccination of boys was found to be not an effective alternative. **CONCLUSIONS:** HPV vaccination was found to be highly effective in reducing the burden of cervical cancer. The model predicted outcomes are most sensitive for vaccine-induced duration of protection. Vaccination of girls at an older age can be considered to further reduce the incidence of cervical cancer.

PCN14

EVALUATION OF THE EFFICACY AND SIDE EFFECTS OF DACARBAZINE IN COMPARISON TO TEMOZOLOMIDE THERAPIES IN TREATMENT OF MALIGNANT MELANOMA. A META-ANALYSIS

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OBJECTIVES: The worldwide incidence of melanoma is increasing rapidly. Two chemotherapy regimens are used for treatment of Malignant Melanoma: single agent intravenous Dacarbazine (DTIC) and oral Temozolomide (TMZ). TMZ has greater cost in Iran so we aimed to conduct a meta analysis to compare the efficacy of two drugs. **METHODS:** To compare the efficacy of these two drugs, a systematic review and meta-analysis were conducted and published articles, comparing use of Dacarbazine and Temozolomide in treatment of Malignant Melanoma were reviewed. For this purpose, Pubmed, Scopous, Web of Science and Cochrane Central Register of Controlled Trials were searched and the search terms were: "Dacarbazine" and "Temozolomide" and " Malignant Melanoma". Data were collected from inception to 2012. "Response to treatment" includes:" complete response (CR)"," partial response (PR)" and "stable disease (SD)" and side effects were the key outcomes of interest. **RESULTS:** The meta-analysis included 3 RCTS and involved 1314 patients with malignant melanoma. Approximately half of them were allocated to the TMZ arm and half to the DTIC arm. Comparison of TMZ with DTIC yielded a nonsignificant relative risk (RR) of 0.83 (95% confidence interval of 0.26-2.64, P=0.76) for complete response. A nonsignificant RR of 1.35 (95% CI of 0.95-1.91, P=0.1) for partial response. A nonsignificant RR of 1.05 (95% CI of 0.85-1.3, P=0.65) for stable disease and a nonsignificant RR of 1.15 (95% CI of 0.74-1.79, P=0.55) for fatigue (a side effect). **CONCLUSIONS:** The potential value of oral versus intravenous chemotherapy is obvious but considering health outcome and not significant difference in efficacy between these two drugs and that TMZ even does not have less side effects and has higher cost of treatment in Iran, we suggest DTIC as a first-choice treatment for Malignant Melanoma.

PCN15

CLINICAL AND COST-EFFECTIVENESS OF PROTON BEAM RADIOTHERAPY FOR EYE CANCER: A SYSTEMATIC REVIEW

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OBJECTIVES: To systematically review the currently available clinical and cost-effectiveness evidence on proton beam radiotherapy (PBRT) for cancers mostly affecting the eye: uveal melanoma, retinoblastoma and metastatic tumors. **METHODS:** A systematic literature search was conducted for published and unpublished cost-effectiveness and clinical data (comparative studies) on the eye cancer population, treated with proton radiation, using a number of medical databases (PubMed, EMBASE, Cochrane Library). In addition, clinical trial registries were searched, reference lists of included studies and of reviews were screened for missed studies. Searches took place in January 2012. **RESULTS:** The search generated 374 references, of which 5 comparative studies met the inclusion criteria. All were reporting cases of uveal melanoma. Studies were characterized by large differences in radiation techniques applied within the studies, and by variation in patient characteristics within and between studies. Overall, the level of evidence is low. When compared to iodine-125 or ruthenium-106 brachytherapy, protons did not provide beneficial effects on overall survival. Proton therapy was although superior to enucleation: results of two studies showed that 12% more patients survived over 36 months and 21% more patients survived over 60 months in the proton group. Vision preservation was observed significantly more frequently after proton therapy than iodine-125 brachytherapy (97% vs 93.1%, p=0.009). Only one included study reported side effects. Refractory neovascular glaucoma and corneal perforations were observed after proton therapy and 10.9% eyes treated with PBRT were enucleated due to complications. No economic evaluation studies were found. **CONCLUSIONS:** There is limited evidence on the effectiveness and safety of proton radiation in patients with ocular melanomas due to the lack of well-designed and well-reported studies. Available comparative studies suggest that proton beam therapy may be beneficial for patients with uveal melanoma, with, however, possible serious side effects. There is a need for research establishing its cost-effectiveness.

PCN16

CLINICAL EFFECTIVENESS ANALYSIS OF SUNITINIB FOR THE TREATMENT OF PANCREATIC NEUROENDOCRINE TUMORS

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OBJECTIVES: To compare clinical efficacy and safety of sunitinib (SUN) and best supportive care (BSC) versus placebo (PL) and best supportive care (BSC) in the treatment of patients with unresectable or metastatic, well-differentiated pancreatic neuroendocrine tumours (pNET) with disease progression. **METHODS:** The review was conducted in accordance with the Cochrane Collaboration guidelines and the Polish Agency for Health Technology Assessment (AOTM) recommendations. Calculations were performed using the StatsDirect® 2.6.8 statistical package. **RESULTS:** As a result of systematic search of publications, 1 primary randomized clinical trial (subtype II A), satisfying the inclusion criteria was found (*Raymond 2011*). It was shown that the use of SUN+BSC results in a statistically significant higher clinical efficacy in respect of progression free survival (PFS), overall survival (OS) and objective response rate in comparison with the control (PL+BSC). The median PFS was over two fold greater in sunitinib treated patients (11.4 months) than in placebo group (5.5 months). The objective response rate was 9.3% in the sunitinib group versus 0% in the placebo group. In the sunitinib group 9 deaths (10%) were reported compared with 21 deaths (25%) in the placebo group (HR = 0.40; 95% CI, 0.18 to 0.86). Sunitinib is safe and well-tollerated therapy. The most frequent adverse events in the sunitinib group were diarrhea, nausea, vomiting, asthenia, and fatigue. In most cases, analysed adverse events were of low severity grade. **CONCLUSIONS:** The results of the presented analysis clearly prove that sunitinib administered in a 37,5 mg dose is an effective and safe therapy in the treatment of patients with unresectable or metastatic, well-differentiated pancreatic neuroendocrine tumours with disease progression.

PCN17

INDIRECT COMPARISON OF THE EFFICACY OF ERLOTINIB VERSUS PEMETREXED PLUS CISPLATIN AS FIRST LINE TREATMENT IN PATIENTS WITH METASTATIC NON SMALL CELL LUNG CANCER WITH EPIDERMAL GROWTH FACTOR RECEPTOR ACTIVATING MUTATIONS

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OBJECTIVES: Erlotinib is an epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor (TKI) that has proven, in controlled clinical trials, to be effective in the first-line treatment of patients with advanced or metastatic non-small-cell lung cancer (mNSCLC) with EGFR activating (EGFR+) mutations, showing significant improvement of progression-free survival over platinum-based standard chemotherapy. In those trials, pemetrexed was not included in the platinum-based chemotherapy regimens used as a comparator, since it was not yet approved for first line use. Following approval as first line treatment for lung adenocarcinoma, plus cisplatin, it became the standard for this indication. The aim of this analysis was to compare the efficacy in reducing the risk of disease progression for patients with mNSCLC with EGFR+ mutations treated with erlotinib versus pemetrexed/ cisplatin. **METHODS:** In the absence of head-to-head trials comparing erlotinib with pemetrexed/ cisplatin, an indirect comparison methodology was performed using the Hazard Ratio (HR) - the most appropriate measure to compare time re-